

Commissioning & Science Verification Vignettes

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DES Calibrations Telecon 18 May 2012

From Alistair's talk.



Phase 2: DECam Commissioning



DARK ENERGY. SURVEY

- Phases 2A, 2B
 - STARS!!!
 - Monitoring & exercising activities
 - Daytime calibrations and CCD tests (some are every day, others less often)
 - Telescope & TCS tests pointing, tracking
 - Focus map, in-and-out, sky position, filter, temperature
 - Donut, BCams, alignment
 - Autofocus
 - Crosstalk, ghosts, scattered light
 - Guiding
 - Calibrations dome flats, star field flats, sky flats
 - Photometry, astrometry
 - Reliability, efficiency, user interface, tool evaluation
- 14 days + 6 floating contingency

From Alistair's talk.



Phase 2 DECam Commissioning



DARK ENERGY. SURVEY

- Phases 2C, 2D
 - Community protocols qualification test DECam performance and reliability and the ability of the Community Pipeline to reduce the data.
 - · Deep dithered field. Long exposures, high background
 - · Low galactic latitude field, multiple filters
 - Variable star density e.g. large globular cluster or resolved nearby galaxy
 - · Establish optimal dither patterns
 - Etc
 - DES protocol qualification Test DECam performance and reliability and the ability of the DESDM pipeline to reduce the data
 - · Test also analysis codes on real DES-like data
 - Test ObsTac
 - · Test QuickReduce in the DES context
 - etc
 - 11 days + 5 floating contingency

From Alistair's talk.





Schedule

SURVEY

Phase	Activity	Time (w)	Elapsed (m)	Nominal start
ONE	Install Imager	3	0.75	Aug 2
TWO	On sky tests (a+b)	2	1.25	Sept 1
	Breather	2	1.75	Sept 27
TWO	On sky tests (c+d)	2	2.25	Oct 6
Observing	Science Verification	3-4	3.25	Oct 23
	Engineering	1	3.5	Nov 16
Observing	DES/regular observing			Nov 20

From Don's talk.



DESDM and Commissioning

- Early
 - Compute Bias and Flat
 - Apply and verify crosstalk
- ~Oct 6-13:
 - Bias, flat, astrometry (e.g distortion correction) and catalog with designated magnitudes
 - Observe Photometric standards determine if DESDM can achieve X% astrometry...(not ultimate astrometry).
- ~Oct 14-22:
 - Begin routine first cut production. First cut processing is relevant to commissioning decision making.
 - Additionally, Final cut and co-add on a subset of SNE field. This
 processing 200 exposures, requires an illumination correction
 and fringe in Y. (relevant for SV)



From Don's talk.

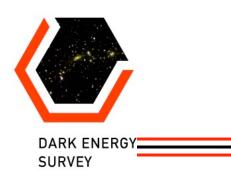


DESDM and Science Verification

- Oct 23 Nov 15.
- · Planning less advanced.
- First cut processing
- Co add production from the small patch.



Phase 2a	day in phase	^{Lead} Scientis	Bias Flat Decal Crosstalk, ghosts,	Turnaround	Overall need	Exercise Calibration processing Exercise First cut	DESDM Concerns	From Don's Excel File (Thu, May	
Phase 2b sept 12-26	1	l	scattered Light, picture. fields will contain bright stars		By eye, looking for gross, not subtle things	Run Hanlon's Crosstalk code based on Estrada's coefficients.	Is integrated Will hanlon be here? Code not currently		
	4,6	Wester et al.	DECAL scans			Run Hanlon's to compute the coefficients , compare. DESDM will see "flats" appearing. May need to process them as flats or do de-bias, etc.	integrated understand DECAL's needs this is quite uncertain Dark processing not		
	4,6 4,6		Darks DOME flats	3d		Ingest and hold just in case, they will be looked at in Chile. DESDM wil produce flats, make available via HTTP	commissioned in DESDM, hope we do r need darks.	not	
Phase 2C Oct 6-13	4,5	Tucker,	Calibration, star flats Stripe 82. Photometry/Astro	3d		Bias, flat, astrometry (e.g distortion correction) and catalog with designated magnitudes. All/most all data need to be processed. Doulas will supply an illumination correction by beginning of processing of teh SNE fields (below) .(n.b. the flat is supplied as pixels, not functional form, for each filter). Need astrometric solution and also run PSM. Use	Need to learn what ki apeture magnitues suffice. Enhanced goo PSF (if working) DESDM delivers data the database. standa stars need to be updated in the	al: to	
Phase 2d Oct	1,2	Bernstein	metry Standards	3d	astrometry	illumination correction if available.	database.		
	1,3 4,6		Community Scripts DES protocol qualification N.b. Before this time, whether the instrument is in shape will really be understood. Community bits	1w	do something DES-like and verify CTIO systems work for DES purposes. (exect it would be SNE fields) N exposures,	illumination correction and fringe in Y. RUn2 once w homoginized and ones without.	NCSA staff may be fighting fires TBD time prior to this DESDM will make a supercal and run a hig pass on it to obtain a Fringe correction in Y (mkillumcor) NCSA staff may be fighting fires		
			DESDM bits			First cut processing, the coadd from comissioning available.			7



Plausible Data Stream

From Jim's Talk (Tue, May 15)

- Science Verification
 - ~100 x10 sq-degrees first cut
 - ~10 sq-degree coadd
- ~December
 - ~400 x10 sq-deg first cut
 - ~100 sq-deg coadded
- ~Feb-March
 - second coadd of the 100 sq-degree area
- Mid-Summer
 - full reprocessing
 - coadd of ~400 sq-degree
- September
 - observing starts again



SURVEY

 See also Alistair's Commissioning Plan Document (DES-doc#3734)

 See also my draft DECam Commissioning Calibration Testing Plan (DES-doc#6449)